Pericranial Tenderness Assessment Test

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Systematic Review

Pericranial Total Tenderness Score in Patients with Tension-type Headache and Migraine. A Systematic Review and Meta-analysis

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Background: Increased pericranial tenderness is considered to be a typical characteristic of tension-type headache (TTH). Assessment of pericranial tenderness in TTH using the total tenderness score is recommended by the International Classification of Headache Disorders-3 (ICHD-3). However, to what extent pericranial tenderness differs between patients with TTH or migraine and healthy patients is unknown.

Objective: To assess the presence and differences in total tenderness score between patients with TTH or migraine, and healthy patients.

Study Design: Systematic review and meta-analysis.

Methods: A literature search was performed in Pubmed/MEDLINE, EMBASE, CINAHL, and Google Scholar databases from inception to August 14, 2020 and identified 4,197 hits. Two independent reviewers selected the studies, extracted data, and performed a risk of bias assessment according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Overall evidence was assessed according to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. From the 185 papers identified, 15 case-control and 2 cross-sectional studies were included.

Results: In total 1,200 (327 men, 873 women) patients with TTH or migraine were included in the systematic review. In the meta-analysis, 15 studies were analyzed and showed that the total tenderness score is higher in people with episodic TTH (standardized mean difference [SMD] 0.91; 95% confidence interval [CI]: 0.63 to 1.19), chronic TTH (SMD 1.57; 95% CI 1.24 to 1.91) and migraine (SMD 1.27; 95% CI: 0.91to 1.63) compared to healthy patients.

Limitations: The description and performance of the total tenderness score differed across the studies. In 7 studies, patients were included with coexisting types of headache.

Conclusion: We found moderate quality evidence for higher tenderness in chronic TTH and migraine, and low quality evidence for higher tenderness in episodic TTH compared to healthy patients. Pericranial tenderness is a common finding in patients with headache and healthy patients. These findings apply for a critical evaluation of the total tenderness score in the current ICHD-3 classification of TTH.

Key words: Tension-type headache, migraine, pericranial muscles, mechanical sensitivity, tenderness, meta-analysis, diagnostic criteria, ICHD-3

The study protocol is preregistered in the Prospective Register of Systematic Reviews under number CRD42019103583.

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Pericranial tenderness assessment test is a critical evaluation tool used by healthcare professionals to diagnose various headache disorders, particularly tension-type headaches (TTH) and migraines. Understanding this assessment test is essential for both practitioners and patients, as it provides insight into the underlying causes of head pain and informs treatment strategies. In this article, we will explore the definition, methodology, significance, and interpretation of the pericranial tenderness assessment test, alongside its role in clinical practice.

What is Pericranial Tenderness?

Pericranial tenderness refers to discomfort or pain felt in the muscles surrounding the skull, particularly those in the forehead, temples, and neck. This tenderness can be

indicative of various medical conditions, including tension-type headaches, migraines, and even some forms of cervicogenic headaches. It is often assessed using a systematic approach during a physical examination.

Why is Pericranial Tenderness Important?

The assessment of pericranial tenderness is significant for several reasons:

1. Diagnosis: It helps differentiate between various types of headaches, particularly between primary headaches (like TTH and migraines) and secondary headaches that may arise from other medical conditions.

2. Treatment Planning: Identifying areas of tenderness can guide treatment options, including physical therapy, medication, and lifestyle changes.

3. Monitoring Progress: Regular assessments can track changes in tenderness over time, helping to evaluate the effectiveness of treatments.

How is the Pericranial Tenderness Assessment Test Conducted?

The pericranial tenderness assessment test is a straightforward procedure typically performed by a healthcare professional during a physical examination. Below is a step-by-step guide to conducting the assessment:

Step 1: Preparation

- Patient History: Gather comprehensive information about the patient’s headache history, frequency, duration, intensity, and any associated symptoms.
- Informed Consent: Explain the test to the patient and obtain their consent to ensure they are comfortable.

Step 2: Examination Technique

The examination involves palpation of specific muscle groups around the head and neck. The following areas are typically assessed:

1. Frontalis Muscle: Located on the forehead, gently palpate the area to assess tenderness.
2. Temporalis Muscle: This muscle is situated on the side of the head. Apply gentle pressure to evaluate tenderness.
3. Occipitalis Muscle: Found at the back of the head, palpate to identify any discomfort.

4. Cervical Muscles: Assess the muscles in the neck, such as the trapezius and sternocleidomastoid.

Step 3: Scoring Tenderness

To quantify tenderness, a scoring system may be used. Commonly, a scale from 0 to 3 is employed:

- 0: No tenderness
- 1: Mild tenderness (patient notices discomfort but it is not significant)
- 2: Moderate tenderness (patient feels significant discomfort)
- 3: Severe tenderness (patient is visibly distressed and experiences considerable pain)

Step 4: Documentation

Record the findings meticulously for future reference. Document the score for each muscle group and any additional observations made during the examination.

Interpreting the Results of the Pericranial Tenderness Assessment Test

Interpreting the results of the pericranial tenderness assessment test involves understanding the implications of tenderness scores and their correlation with headache types.

High Tenderness Scores

- Tension-Type Headaches: A high tenderness score in the pericranial muscles is often associated with tension-type headaches, which are characterized by a dull, aching sensation and tightness in the head.
- Muscle Tension and Stress: Elevated tenderness may also indicate muscle tension due to stress or poor posture, leading to chronic headaches.

Low Tenderness Scores

- Migraines: Patients with migraines may present with lower pericranial tenderness scores, as the pain is more often linked to neurological factors rather than muscular.
- Secondary Headaches: In some cases, low tenderness may indicate underlying conditions that require further investigation, such as sinus issues or other structural problems.

Limitations of the Pericranial Tenderness Assessment Test

While the pericranial tenderness assessment test is valuable, it does have its limitations:

1. Subjectivity: The assessment relies on the patient's self-reported pain levels, which can vary based on individual pain tolerance and perception.
2. Muscle Variability: Tenderness may not be consistent across all patients, leading to potential misinterpretations.
3. Overlap with Other Conditions: Conditions such as fibromyalgia or cervical spine disorders may also present with tenderness, complicating the diagnostic process.

Conclusion

The **pericranial tenderness assessment test** is an essential tool for healthcare professionals in diagnosing and managing headache disorders. By understanding its methodology and implications, practitioners can provide more effective care tailored to the individual needs of patients. Furthermore, as awareness of headache disorders continues to grow, the significance of thorough assessments like the pericranial tenderness test will only increase, ultimately enhancing patient outcomes and quality of life.

Incorporating this assessment into routine practice can lead to better understanding and management of headaches, helping patients find relief and regain control over their lives. Whether you are a healthcare provider or a patient seeking to understand more about headache management, grasping the importance and intricacies of the pericranial tenderness assessment test is pivotal in the journey toward effective treatment.

Frequently Asked Questions

What is the pericranial tenderness assessment test?

The pericranial tenderness assessment test is a clinical examination used to evaluate tenderness around the head and neck, which can indicate underlying conditions such as tension-type headaches or myofascial pain syndromes.

How is the pericranial tenderness assessment test performed?

The test is performed by palpating specific areas around the skull and neck, including the temporalis, occipitalis, and cervical muscles, while assessing for pain or tenderness in response to pressure.

What conditions can be diagnosed using the pericranial tenderness assessment test?

Conditions such as tension-type headaches, migraines, and myofascial pain disorders can be diagnosed using the pericranial tenderness assessment test, as it helps identify muscle tenderness and associated pain.

Why is the pericranial tenderness assessment test important for headache management?

This test is important for headache management as it helps clinicians determine the source of pain, guide treatment decisions, and monitor response to therapies aimed at reducing muscle tension or triggering factors.

Are there any contraindications for performing the pericranial tenderness assessment test?

Yes, contraindications may include recent head trauma, open wounds on the scalp, or conditions that may exacerbate when pressure is applied, such as certain infections or inflammatory diseases.

How can patients prepare for a pericranial tenderness assessment?

Patients should arrive for the assessment without any acute pain relief medications affecting the evaluation. It's also helpful for them to provide a history of their headache patterns and any previous treatments.

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